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July 1, 1999

BOX PATENT APPLICATION

Assistant Commissioner for Patents
Washington, D.C. 20231

Re: New U.S. Patent Application of
Inventors: Douglas Walter Conmy, et al.
"SYSTEM AND METHOD FOR ENABLING A USER TO SUBSCRIBE TO
UPDATES FROM INFORMATION SOURCES"

Dear Sir:

Attached is a new patent application for filing in the United States Patent and Trademark Office, including twelve (12) pages of specification, four (4) pages of claims (numbered 1-20), an Abstract, and four (4) sheets of drawings (Figs. 1-4). Also enclosed are Assignments with cover sheets and an Executed Joint Declaration for Patent Application.

The filing fee is calculated as follows:

					Amount
Basic Filing Fee					\$ 760.00
Rate					
	Extra	Large Entity	Small Entity		
Number of Claims in Excess of 20	0	\$18	\$9		\$
Independent Claims in Excess of 3	1	\$78	\$39		\$ 78.00
Assignment Recordations					\$ 160.00
TOTAL FEE DUE					\$ 998.00

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Our check in the amount of \$998.00 is attached to cover the basic application filing fee and assignment fees. In the event any variance exists between the amount enclosed and the Patent and Trademark Office charges, please charge or credit any difference to the undersigned's Deposit Account No. 50-0206. **A duplicate of this sheet is attached.**

Please direct all communication concerning this application to:

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By: Brian M. Buroker
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Enclosures

**SYSTEM AND METHOD FOR ENABLING A USER TO SUBSCRIBE
TO UPDATES FROM INFORMATION SOURCES**

5

Field of the Invention

The invention relates to a system for subscribing to information updates from network-based and non-network-based information sources. More particularly, the invention relates to a system for providing updates from network-based and non-network-based information sources based on criteria selected by a user.

Background of the Invention

Staying informed of current developments in a particular area of expertise is important for many disciplines. The manual process of having to search for and read recent publications, however, is very cumbersome and time consuming. Often, people are unable to dedicate time to perform this process and may not be able to stay abreast of changes in a particular area.

Systems have been developed which attempt to automate the process of delivering updated information related to a particular field to one or more system users. Such systems may be used in a client/server architecture having one or more users connected over a network to one or more databases, such as server databases. Present systems generally perform a search of these databases to determine objects containing desired information.

Some systems, however, are dedicated to on-line information providers that publish information relating to various fields of endeavor. A user of a network system may access an information provider and request that information related to, for example, a particular topic, be forwarded to the user (*e.g.*, via electronic mail) upon publication. This type of delivery may be included in systems utilizing “push” technology. In this manner, the user is notified of reports related to that topic upon its publication by the provider.

5 Such systems are limited to on-line information providers and are not capable of providing a user with updates from other sources of information. Present systems are also unable to determine whether information sources or computer applications (*e.g.*, an electronic mail application) contain new information related to a particular topic and notify a user that such information exists.

10 These and other drawbacks exist.

Summary of the Invention

 An object of the invention is to overcome these and other drawbacks in existing systems.

15 Another object is to provide a system, method, and computer readable medium that automatically provides system users with current information from network-based and non-network based information sources.

 Another object is to provide a system, method, and computer readable medium that automatically provides system users with updated information from network-based and non-network-based information sources and permits system users to determine a
20 search criteria with which to retrieve the information.

 These and other objects are achieved according to various embodiments of the invention. According to one embodiment, a system, method, and computer readable medium containing computer readable program code embodied therein are provided that enable a user to automatically receive information updates from network-based and non-
25 network-based information sources.

 The system may enable a user to request a "subscription" to information produced by one or more information sources accessed by a computer application. The subscription may contain a request for continuous updates to information related to a particular topic. The system presents a subscription request view to a user and enables
30 the user to request one or more subscriptions. The system may also enable a user to input a search criteria for performing the search. Once input, the subscription is submitted to the system. After receiving the subscription, the system may perform periodic searches of the information sources accessed by the computer application to retrieve information

5 satisfying the search criteria. The periodic updates received may be automatically presented to the user.

These and other objects, features, and advantages of the invention will be apparent to those having ordinary skill in the pertinent art from the detailed description of the preferred embodiments with reference to the figures.

10 **Brief Description of the Drawings**

Fig. 1 is a schematic block diagram of a subscription view in accordance with an embodiment of the invention.

Fig. 2 is a schematic block diagram of a method of receiving a subscription in accordance with an embodiment of the invention.

15 Fig. 3 is a schematic block diagram of an update system in accordance with an embodiment of the invention.

Fig. 4 is a schematic block diagram of a method of requesting updated information in accordance with an embodiment of the invention.

Detailed Description of the Preferred Embodiments

20 According to the invention, the system enables a user to set-up one or more subscriptions from both network-based and non-network based information sources. Once set up, the user may then desire to periodically review the results. The subscriptions, which may be periodically updated, may thus be viewed through inputting various parameters because a user may not desire to see all of the results of a particular
25 subscription.

For example, a user may subscribe to a World Wide Web site for sports information. The user may desire to periodically review the subscription for all articles written by a particular sports writer.

30 The invention may include a set of objects for information retrieval and related functions to filter and deliver desired updates from one or more databases. The objects may comprise software modules running on a general purpose programmed computer.

Accordingly, a graphical user interface, or view, may be provided. Fig. 1 is an illustration of a subscription view 100 in accordance with one embodiment of the

5 invention. Subscription view 100 may include a subscription name field 102 which permits a user to input the name of a subscription. Subscription view 100 may also include an object option 104 for retrieving particular objects. For example, radio buttons may be used to identify information objects to be retrieved. The options may include options that enable the user to 1) retrieve all new or modified documents, 2) retrieve only
10 those documents matching a particular selection criteria, and 3) retrieve only those documents matching a particular selection formula, etc.

Subscription view 100 may also comprise options 106, 108, 110 related, for example, to options that enable a user to specify the author, subject, and size of subscriptions, respectively. Options 106, 108, and 110 may include selectable parameters
15 for each option. For example, author option 106 may include a pull-down menu comprising options that enable the user to select “contain the text,” “include any of these names,” “exclude all of these names,” etc. Subject option 108 also may include selectable options such as “begins with,” “has any of these words,” or “has none of these words.” Similarly, size option 110 may include “is less than,” “is larger than,” or “is
20 equal to” as selectable options.

Additionally, a “Documents must match” field 112 may be included. “Documents must match” field 112 may comprise selectable criteria. For example, the selectable criteria may include “any of the above criteria,” “all of the above criteria,” etc. This criteria may be displayed as a pull-down menu or as various other known selectable
25 mechanisms. If “Documents must match” field 112 is selected, all of the criteria specified must be satisfied in order for the information object in the database to be presented to the user.

If a user requests a subscription of only new or modified objects matching a selection formula, a selection formula field 114 may be provided in subscription view
30 100. A user may input, for example, lines of program code that identifies search criteria.

Furthermore, a “Check Syntax” function may be displayed as a selectable button 116. Check Syntax button 116 may be used to determine whether the code input in selection formula field 114 is correct. If the Check Syntax function determines that the

5 syntax of the input code is correct, a message window (for example) may be displayed notifying the user that the code syntax is correct. If the Check Syntax function determines that there is at least one syntax error in the code, the system may display a message window notifying the user that at least one syntax error exists. Additionally, the system may identify the syntax error(s) in the input code and suggest possible corrections.

10 Subscription view 100 may also comprise a status field 118 indicating the most recently searched server and the time the server was searched. A “Temporarily disable this subscription” option 120 may also be included in status field 118 (or other location). “Temporary disable this subscription” option 120 may be used to discontinue a subscription for a period of time. Additionally, subscription view 100 may include an
15 “Additional Information” field 122 which may display additional information relating to a particular subscription (*e.g.*, a replica identification, selection formula used, etc.). Those of ordinary skill in the art recognize that various parameters and modes of display may be used. For example, all parameters may be shown with a corresponding selectable radio button and additional options may also be presented.

20 Fig. 2 illustrates a method 70 of setting up and receiving updated information according to a subscription established by a user. In step 72, the system requests a subscription from a database in accordance with search criteria input by a user. In step 74, the system accesses the database(s) corresponding to the user’s subscription. In step 76, the system then performs a search for objects stored within the database(s) that match
25 the search criteria. In step 78, the system then determines the objects which match the search criteria input by the user.

According to one embodiment of the invention, step 80 may periodically and automatically obtain information matching the search criteria. Step 80 may periodically perform searches for objects matching the search criteria on a random, user assigned, or
30 system administrator assigned basis. For example, the user may instruct the system to perform a search on a weekly, daily, or hourly basis. The system performs the search at the designated intervals, then may automatically present the information matching the search criteria to the user, for example, on a “Welcome” page of a web browser.

5 According to another embodiment, step 80 retrieves the information objects from the subscriptions that match the search criteria from the database(s). The system may then notify the user in step 82 that objects matching the search criteria have been identified. In step 84, the system may inquire whether the user desires to present the matching objects immediately. This may be performed by displaying a message window
10 comprising a question (*e.g.*, “Do you want to view the matching objects now?”), with “yes”/“no” options. If a user selects yes, the system may present the matching objects in step 86. If the user selects no, the matching objects may be stored for later retrieval in step 88.

To perform the steps described above, an update system 14 (shown in Fig. 3) may
15 be provided. To retrieve, scan and filter the information desired by the user, an update system 14 may perform periodic searches of fields within information objects stored in one or more databases to determine whether information objects match a user’s criteria. These databases may be network objects or non-network databases. Update system 14 preferably includes a subscription requesting object 30. Subscription requesting object 30
20 requests a subscription for a user from one or more databases by communicating with a server over a communications link. After one or more subscriptions have been requested, a presenting object 32 may present a user with a subscription view (as shown in Fig. 5, for example). The subscription view may present a user with selectable criteria for performing update searches as discussed above.

25 A criteria receiving object 34 receives the search criteria input by the user. A subscription submitting object 36 submits the subscription to update system 14. Update system 14 may perform subscription validation by communicating with a server to confirm user account status, access rights, payment status or other requirements for establishing a valid subscription. After a subscription has been submitted and, if
30 necessary, validated, update system 14 establishes a schedule to periodically perform searches (*e.g.*, randomly or as determined by the user or a system administrator) of the corresponding database to identify objects which match the criteria of the subscription.

5 In terms of establishing the subscription, Fig. 4 illustrates a method 50 of requesting a subscription in accordance with one embodiment of the invention. In step 52, users request a subscription of one or more databases. For example, if the user is interested in sporting news, the database may be the Web site for Sports IllustratedTM or other sporting publications. After a subscription is requested, in step 54, a user may be
10 presented with a view (typically on a computer monitor) that allows a user to input criteria for selecting which objects from the database are to be retrieved and forwarded to the user. In step 56, the system receives the criteria input by the user. In step 58, the system then submits the subscription to update system 14.

In accordance with one embodiment, the invention operates on a client/server
15 system. The invention preferably accesses information objects stored in one or more databases, via a server. Databases may include, for example, software applications provided over a network, software applications stored on a local computer, files, documents, or other database. The system may perform a search of one or more
20 databases, for example, servers located on the Internet, accessed by applications accessed by one or more clients to retrieve information requested by a user. Each client may comprise a personal computer running WindowsTM 95, 98 or NTTM, UnixTM, LinuxTM or other operating systems, as well as other computing or communications devices. Alternatively, each client may comprise individual threads running under a multitasking operating system on one computer. Update system 14 may be implemented as a software
25 module running on a separate server, or similarly as an individual process thread on one computer along with clients. Update system 14 is a search and delivery engine providing users with periodically updated information regarding topics of selected interest. Update system 14 may be connected to a server via a communication link, which may be a dial-up modem connection, ISDN line, T1 or T3 digital connection, Ethernet, wireless, optical
30 or other link.

The server may be in turn connected to one or more databases via a communications link, which may also be a dial-up modem connection, ISDN line, T1 or T3 digital connection, Ethernet, wireless, optical or other link. Each database may be a

5 database residing for instance on hard disk, CD ROM, electronic memory or other storage media, contained within a server computer (not shown) or within information nodes in a local network, or other sources. It should be understood that a database may comprise a computer file, application, or other mechanism.

10 The server computer or other apparatus housing an object store may thus be an on-line resource connected to the Internet at an assigned http:// address, or a resource connected via a private intranet, a distributed database connected to a local area network, or connected in other fashions over a communications link to a server. It may be noted that in the implementation of the invention, it is not necessary, and update system 14 does not strictly expect, that database be solely an online database. When the database is an
15 on-line source, in the context of delivery of updates over an Internet server may be deployed by an Internet service provider (ISP) via a PPP or SLIP connection. The database, however, may be a CD or DVD ROM, archival tape bank, or other off-line database connected as a peripheral to a client, as well as an on-line or off-line e-mail buffer, or any other accessible information source. It will again be appreciated that the
20 invention operates with both Internet-based and non Internet-based information services.

According to a specific embodiment, a user may open a computer application, for example, an electronic mail or calendar application. The user may select, for example, a "Create" button from a pull-down field and select a "Subscription" option. A subscription form (for example, as shown in Fig. 5) is presented that permits the user to
25 create a subscription, based on a selected search criteria, to that application. For example, if a user creates a subscription from a mail application, the user may create a subscription for electronic mail messages containing predetermined text, from a particular sender, or other criteria. For example, a user may create a subscription for electronic mail messages containing "fred" in the author line, the word "paycheck" in the subject line, or messages
30 less than ten (10) kilobytes in size. As shown in object option 104 and "Documents must match" field 112, the subscription will retrieve only those documents matching any of the input criteria.

5 The system may then perform periodic searches randomly, at times assigned by the user or by other known mechanisms of electronic mail messages received to determine whether the messages contain the word "paycheck." If "paycheck" appears in a message, the update system notifies the user that a message containing the word "paycheck" has been received (*e.g.*, by presenting the message or a portion thereof in a subscription window). Additionally, the update system may ask the user whether the message should be presented immediately.

According to one specific embodiment, update system 14 operates in the environment of Lotus Notes™ (developed by Lotus Development Corporation) under a function entitled "Subscriptions." According to one embodiment, Subscriptions and Lotus Notes™ may be operating on a Windows™ operating system licensed by the Microsoft Corporation. A Subscriptions icon may be presented in a navigation panel in Lotus Notes™. According to this embodiment, selecting the Headlines icon presents a Headlines window containing, for example, a list of subscriptions the user has created, the user's calendar application, a predetermined web site, etc., in various frames. A user may select the information to be displayed when the Headlines icon is selected. In the particular context of a Notes™ implementation, the storage of all forms of data, including database, electronic mail, word processing documents and others in a consistent file format (.NSF extension) permits particularly efficient searching through selected fields. That is, data can be tested against search criteria and target fields quickly and reliably since those data structures are well defined in that environment. Likewise is that environment, data can be readily stored in distributed copies of an overarching Notes™ file but readily shared and searched for updates by a variety of users throughout an enterprise. Preferably, update system 14 enables subscription view 100 to be configured according to a user's preference. For example, a user may select the number and arrangement of the frames to be searched or presented in the Notes™ context.

Update system 14 may be provided on a computer readable storage medium comprising computer readable code embodied therein and loaded onto a client. Various objects of the client may also be provided on a computer readable storage medium.

5 Other embodiments and uses of the invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. The specification and examples should be considered exemplary only. The scope of the invention is intended to be limited only by the following claims.

CLAIMS**5 What is claimed is:**

1. A system for enabling a system user to request a subscription of at least one non-web document from at least one database, comprising:

subscription requesting means for enabling the user to request the subscription of at least one non-web document from the at least one database;

10 search performing means for performing a search of the at least one database for information matching the subscription; and

subscription retrieving means for retrieving the information matching the subscription.

2. The system of claim 1, wherein the search performing means performs the search
15 of the at least one database on a random basis.

3. The system of claim 2, wherein the search performing means performs the search on a random basis selected by the user.

4. The system of claim 1, further comprising option input means for enabling a user to input one or more options relating to the subscription.

20 5. The system of claim 1, further comprising subscription formula means for enabling the user to request a subscription using a formula.

6. A system for enabling a system user to request a subscription of at least one non-web document from at least one database, comprising:

a subscription requesting object that enables the user to request the subscription of
25 at least one non-web document from the at least one database;

a subscription retrieving object that retrieves the information matching the subscription.

8. The system of claim 7, wherein the search performing object performs the search on a random basis selected by the user.

10. The system of claim 6, further comprising a subscription formula receiving object that enables the user to request a subscription using a formula.

requesting a subscription for the at least one non-web document from the at least

performing a search of the at least one database for information matching the description; and

12. The method of claim 11, further comprising the step of presenting the information to the user.

5 13. The method of claim 11, further comprising the step of periodically searching the at least one database.

14. The method of claim 13, wherein the step of periodically searching the at least database is performed on a random basis.

15. The method of claim 14, wherein the step of periodically searching the at least one
10 database is performed on a periodic basis selected by the user.

16. A computer usable medium having computer readable code embodied therein for enabling a system user to request a subscription of at least one non-web document from at least one database, comprising:

subscription requesting computer readable code for causing a computer to request
15 the subscription of at least one non-web document from the at least one database;

search performing computer readable code for causing a computer to perform a search of the at least one database for information matching the subscription; and

information retrieving computer readable code for causing a computer to retrieve the information matching the subscription.

20 17. The medium of claim 16, wherein the search performing computer readable code performs the search of the at least one database on a random basis.

18. The medium of claim 17, wherein the search performing computer readable code performs the search on a random basis selected by the user.

19. The medium of claim 16, further comprising option input computer readable code
25 for causing a computer to enable a user to input one or more options relating to the subscription.

[illegible]

5 **Abstract of the Disclosure**

 A system, method, and computer readable medium for providing a system user with information updates from web-based or non-web-based computer sources. The system enables a user to subscribe from a computer application (*e.g.*, an electronic mail or calendar application) to information sources. The system presents the user with a subscription view that the user may use to create the subscription through the use of selectable criteria displayed in the subscription view. The user may input search criteria for performing a search of one or more databases. The system searches the databases accessed, and then retrieves the objects matching the search criteria. The system may then notify the user that objects matching the search criteria have been discovered, and store or present the objects.

CLAIMS**5 What is claimed is:**

1. A system for enabling a system user to request a subscription of at least one non-web document from at least one database, comprising:

subscription requesting means for enabling the user to request the subscription of at least one non-web document from the at least one database;

10 search performing means for performing a search of the at least one database for information matching the subscription; and

subscription retrieving means for retrieving the information matching the subscription.

2. The system of claim 1, wherein the search performing means performs the search
15 of the at least one database on a random basis.

3. The system of claim 2, wherein the search performing means performs the search on a random basis selected by the user.

4. The system of claim 1, further comprising option input means for enabling a user to input one or more options relating to the subscription.

20 5. The system of claim 1, further comprising subscription formula means for enabling the user to request a subscription using a formula.

6. A system for enabling a system user to request a subscription of at least one non-web document from at least one database, comprising:

a subscription requesting object that enables the user to request the subscription of
25 at least one non-web document from the at least one database;

5 a search performing object that performs a search of the at least one database for
information matching the subscription; and

 a subscription retrieving object that retrieves the information matching the
subscription.

7. The system of claim 6, wherein the search performing object performs the search
10 of the at least one database on a random basis.

8. The system of claim 7, wherein the search performing object performs the search
on a random basis selected by the user.

9. The system of claim 6, further comprising an option input object that enables a
user to input one or more options relating to the subscription.

15 10. The system of claim 6, further comprising a subscription formula receiving object
that enables the user to request a subscription using a formula.

11. A method for enabling a system user to request a subscription of at least one non-
web document from at least one database, comprising the steps of:

 requesting a subscription for the at least one non-web document from the at least
20 one database;

 performing a search of the at least one database for information matching the
subscription; and

 retrieving the information matching the subscription.

12. The method of claim 11, further comprising the step of presenting the information
25 to the user.

5 13. The method of claim 11, further comprising the step of periodically searching the at least one database.

14. The method of claim 13, wherein the step of periodically searching the at least database is performed on a random basis.

15. The method of claim 14, wherein the step of periodically searching the at least one
10 database is performed on a periodic basis selected by the user.

16. A computer usable medium having computer readable code embodied therein for enabling a system user to request a subscription of at least one non-web document from at least one database, comprising:

subscription requesting computer readable code for causing a computer to request
15 the subscription of at least one non-web document from the at least one database;

search performing computer readable code for causing a computer to perform a search of the at least one database for information matching the subscription; and

information retrieving computer readable code for causing a computer to retrieve the information matching the subscription.

20 17. The medium of claim 16, wherein the search performing computer readable code performs the search of the at least one database on a random basis.

18. The medium of claim 17, wherein the search performing computer readable code performs the search on a random basis selected by the user.

19. The medium of claim 16, further comprising option input computer readable code
25 for causing a computer to enable a user to input one or more options relating to the subscription.

- 5 20. The medium of claim 16, further comprising subscription formula computer readable code means for causing a computer to enable the user to request a subscription using a formula.

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5 **Abstract of the Disclosure**

 A system, method, and computer readable medium for providing a system user with information updates from web-based or non-web-based computer sources. The system enables a user to subscribe from a computer application (*e.g.*, an electronic mail or calendar application) to information sources. The system presents the user with a subscription view that the user may use to create the subscription through the use of selectable criteria displayed in the subscription view. The user may input search criteria for performing a search of one or more databases. The system searches the databases accessed, and then retrieves the objects matching the search criteria. The system may then notify the user that objects matching the search criteria have been discovered, and store or present the objects.

Basics

Subscription name:

102

Retrieval

Retrieve what new or modified documents: ☐ All
☐ Those matching the selection criteria
☐ Those matching the selection formula (advanced)

104

Retrieve documents where:

☒ Authors

106

☒ Subject

108

☒ Size KB

110

Documents must match:

112

Selection Formula:

`SELECT @Contains (@LowerCase (@Author); **) !@Contains (@LowerCase (Subject); **)`

114

118

116

Check Syntax

100

Status

Last checked time: N/A

Last checked server: N/A

120

☐ Temporarily disable this subscription

Additional information

122

Figure 1

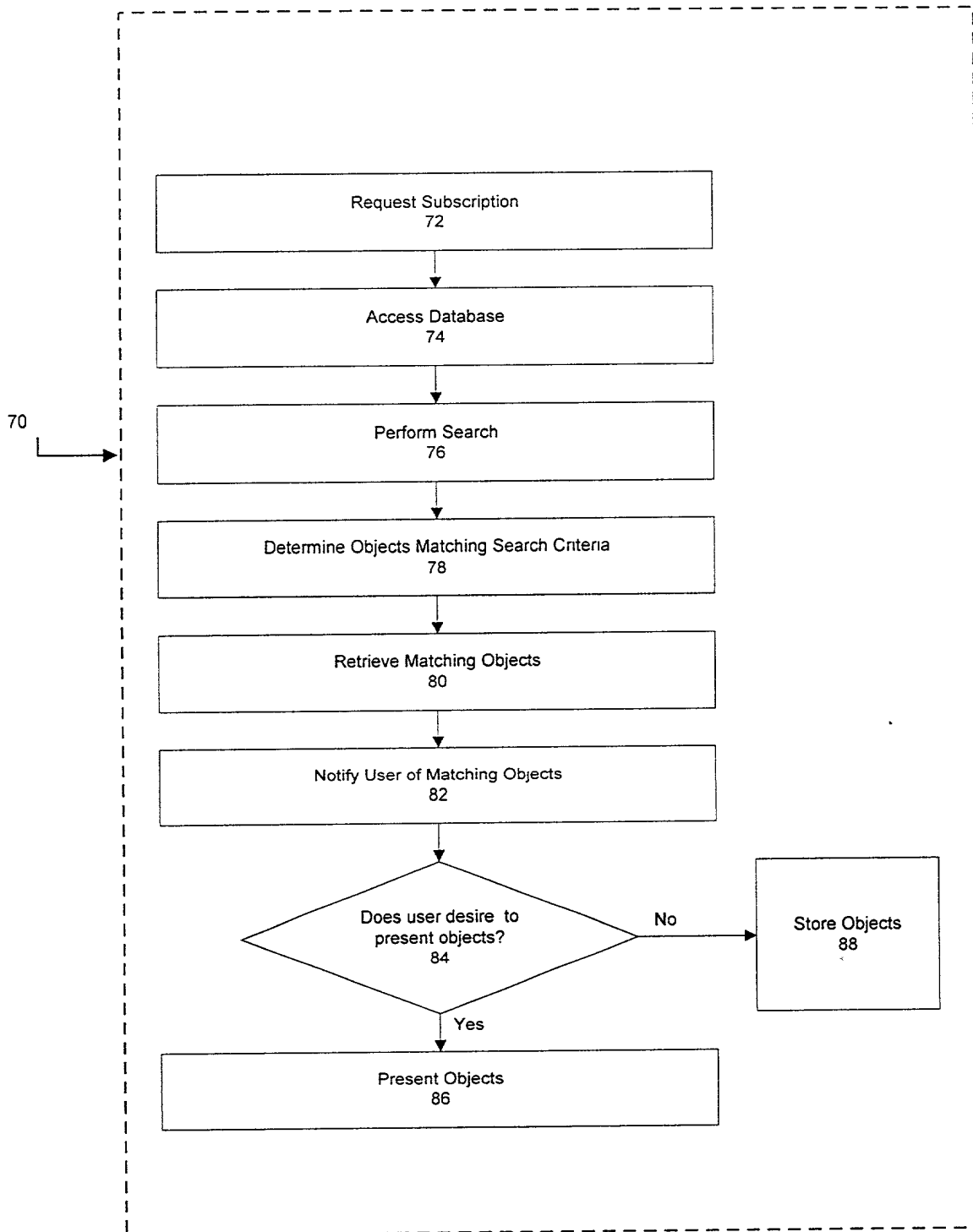


Figure 2

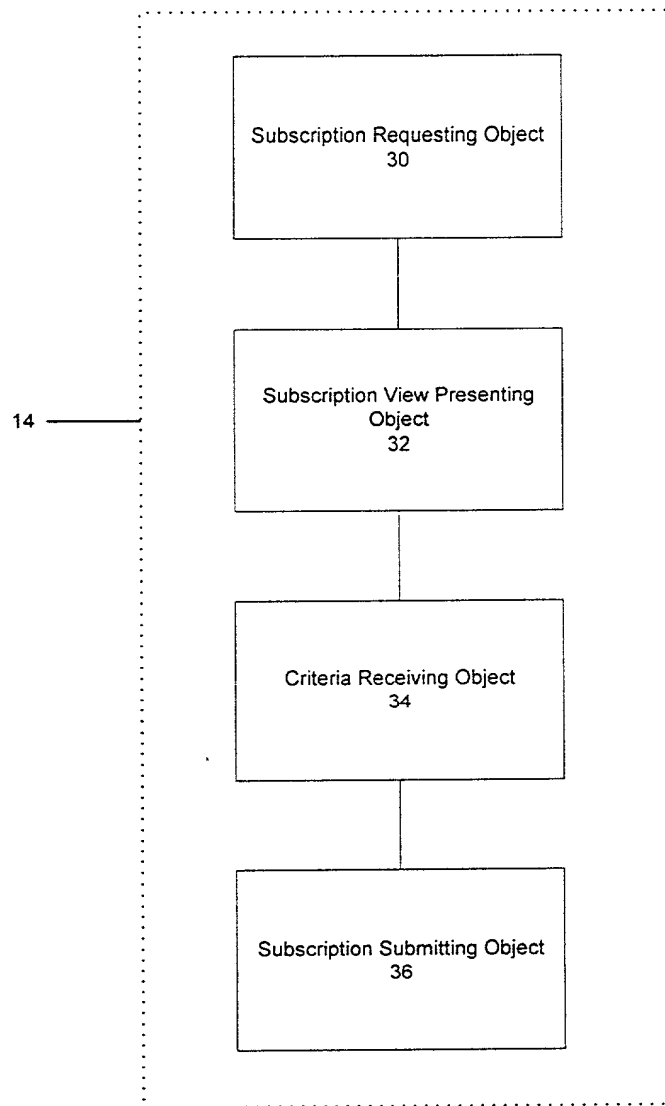


Figure 3

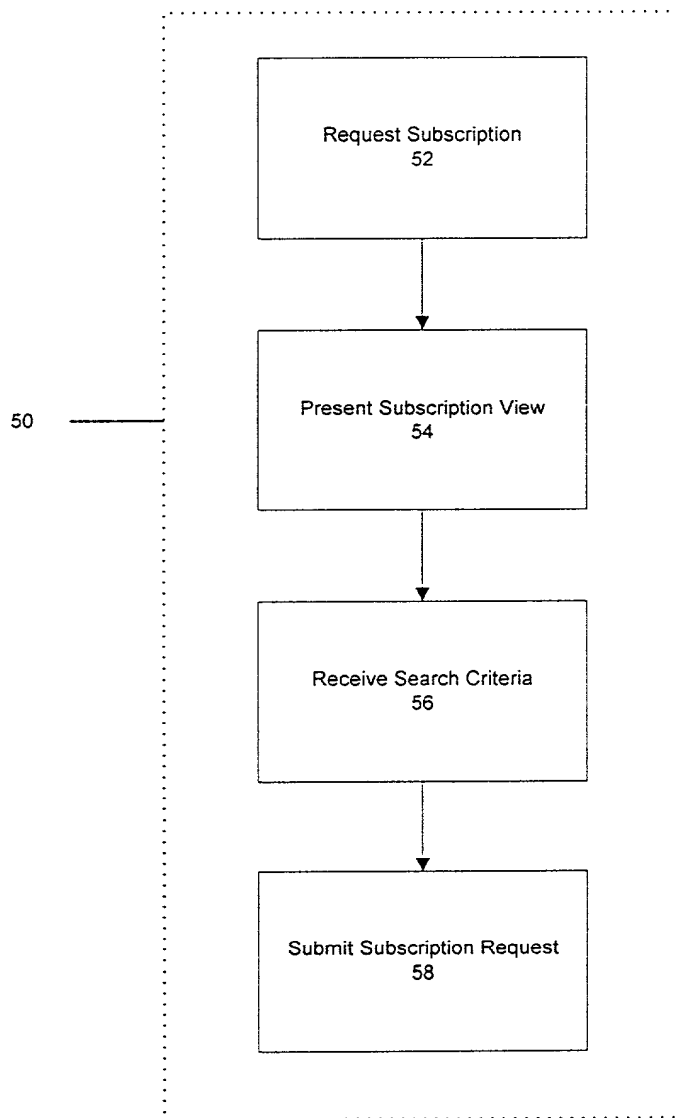


Figure 4

JOINT DECLARATION FOR PATENT APPLICATION

As the below named inventors, we hereby declare that:

Our residences, post office addresses and citizenship are as stated below next to our names;

We believe that we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled SYSTEM AND METHOD FOR ENABLING A USER TO SUBSCRIBE TO UPDATES FROM INFORMATION SOURCES, the specification of which

☒ is attached hereto.

☐ was filed on _____ as Application Serial Number _____ and was amended on _____ (if applicable)

We hereby state that we have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to in this declaration.

We acknowledge the duty to disclose all information known to us to be material to the patentability of this application, as defined in 37 C.F.R. § 1.56.

We acknowledge the duty to disclose to the Office all information known to us to be material to patentability as defined in § 1.56, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Prior Foreign Application(s)

We hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Country	Application Number	Date of Filing (day, month, year)	Date of Issue (day, month, year)	Priority Claimed Under 35 U.S.C. 119	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>
				Yes <input type="checkbox"/>	No <input type="checkbox"/>
				Yes <input type="checkbox"/>	No <input type="checkbox"/>
				Yes <input type="checkbox"/>	No <input type="checkbox"/>

Prior United States Application(s)

We hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, we acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial Number	Date of Filing (day, month, year)	Status - Patented, Pending, Abandoned
60/112,205	12/15/98	Pending

And we hereby appoint, both jointly and severally, as our attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith the following attorneys, their registration numbers being listed after their names:

Thomas J. Scott, Jr., Registration No. 27,836; Stanislaus Aksman, Registration No. 28,562; Kevin J. Dunleavy, Registration No. 32,024; James G. Gatto, Registration No. 32,694; Scott D. Balderston, Registration No. 35,436; Tyler S. Brown, Registration No. 36,465; Christopher C. Campbell, Registration No. 37,291; Henry C. Su, Registration No. 37,738; Brian M. Buroker, Registration No. 39,125; Thomas G. Woolston, Registration No. 40,235; Charles F. Hollis, Registration No. 40,650; Kevin T. Duncan, Registration No. 41,495; Jonathan D. Link, Registration No. 41,548; Christopher J. Cuneo, Registration No. 42,450; Stephen T. Schreiner, Registration No. 43,097; Raphael A. Valencia, Registration No. 43,216; and George B. Georgellis, Registration No. P43,632.

All correspondence and telephone communications should be addressed to Hunton & Williams, 1900 K Street, N.W., Suite 1200, Washington, D.C. 20006-1109, telephone number (202) 955-1500, which is also the address and telephone number of each of the above listed attorneys.

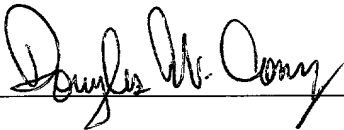
We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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Date 6/14/99

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